

REMARKS

The primary cited prior art reference, *Allais*, discloses a self-checking system for multi-track coding and decoding. It uses multiple stacks of code to encode data and adds a "row check" character. In addition, *Allais* includes a character which checks the number of rows encoded, as well as a data check sum on the data character values. This reference can also do column check sums on each of the rows since the rows are stacked on top of each other. Although these features are probably advantageous, their structure and function differ significantly from those of the present invention.

In contrast, the present invention *only* utilizes the characters that appear in the serial number in both the machine-readable code and the human-readable code. No other characters or values are added to these codes. Applicant's invention simply re-orders the serial number for the machine code so that no matter which order the individual codes are read in, the code can be properly re-sequenced (i.e., into the human-read version) by a machine. Moreover, in the specific embodiment disclosed, the invention is symmetrically arrayed in an arcuate pattern about a rotational axis of the part to which the code is affixed. It is also noteworthy that, due to the sheer size of its stack, it is physically impossible for *Allais* to be applied to the present application. There simply is not enough space on spindle motors to locate a four-layer stack of bar codes.

The other prior art references are recited for singular additional elements. *Kosarew* is cited by the Examiner for providing human-readable code, *Goldfield* for barcode laser etching, and *Sant'Anselmo* for cell arrays. However, one or more of each of the distinguishing features described above for the present invention has been added to each of the independent claims. For example, independent claim 1 now specifically requires the body to have an axis of rotation, and for the codes to be radially spaced apart from the axis to define an arcuate array. In addition, each code in claim 1 is specifically limited to a 10x10 matrix, such that there is an "arcuate array of the 10x10 matrices, which are spaced apart from each other on the body." None of the prior art references show or describe such a configuration. In particular, although the reference *Sant'Anselmo* shows a 10x10 array, closer inspection reveals that there is actually an internal

data field 12 (8x8), a circumscribing border 16 (10x10), and an external data field 18 (14x14). Importantly, the internal data field 12 is too small to encode the requisite number of characters, the border contains no data, and the external field 18 does not read on claim1 and is too large to fit on the apparatus.

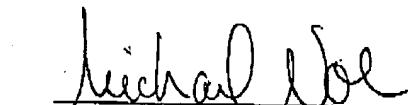
Like claim 1, independent claim 9 was rewritten to include the axis and symmetrically arcuate code array about the axis. In addition, claim 9 requires both human-readable and machine readable forms, and for the human-readable form of the serial number to appear in a first order, and the machine-readable form of the serial number to appear in an order different from the first order. In addition to the arguments offered for claim 1, these additional elements are truly unique requirements compared to the cited prior art references.

Independent method claim 15 was amended to require "two versions of the serial number: a plurality of separate, machine-readable codes, and a single human-readable code." In addition, *both* the order characters and the unique characters are split up between each of the machine-readable codes. As a result, "an order of the serial number in the machine-readable codes differs from an order of the serial number in the human-readable code," and the machine-read serial number is reconstructed in the same order as the human-read code. As stated previously, none of the references show or describe such a method.

Finally, independent method claim 21 contains all of the steps alluded to and described above, including: laser etched, machine-readable, two-dimensional array codes, the array codes being symmetrically positioned about a rotational axis of the apparatus such that the array codes are oriented in an arcuate pattern about the axis; sequential division of the serial number among the array codes, forming the serial number on the apparatus in a human-readable code that differs in order from an order of the machine-readable array codes; and then reading the array codes with a machine code reader and reconstructing the machine-read serial number in the same order as the order of the human-readable code. Claim 21 and its progeny are allowable for the same reasons described above.

It is respectfully submitted that the claims are in condition for allowance and favorable action is requested. No extension of time is believed to be required. However, in the event that an extension of time is required, please charge that extension fee and any other required fees to **IBM Corporation Deposit Account Number 09-0466.**

Respectfully submitted,


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